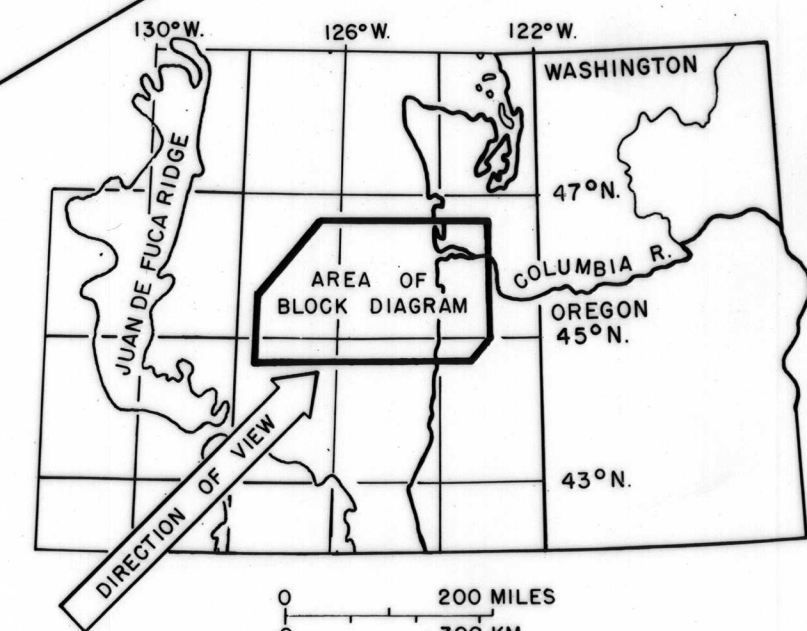
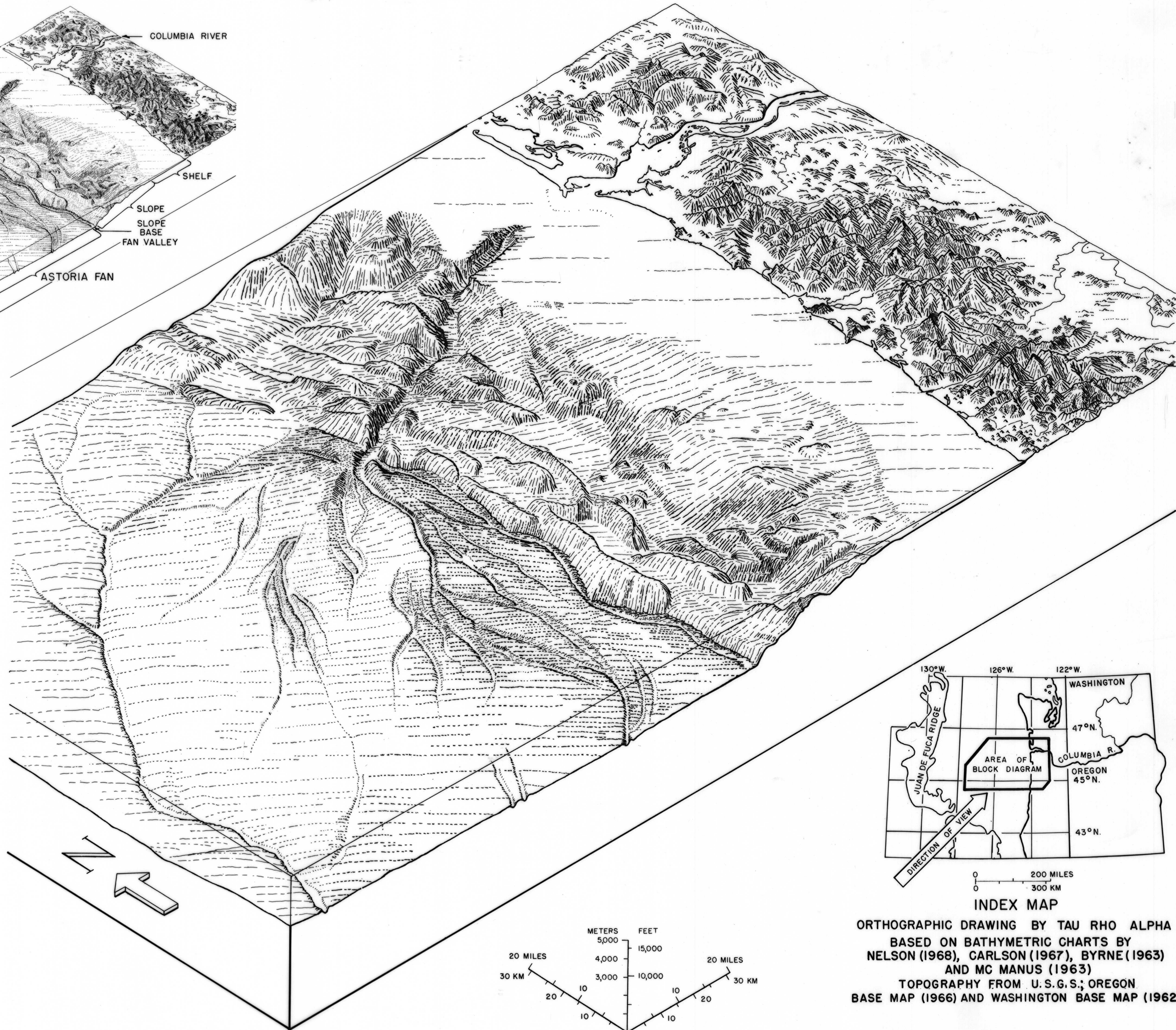
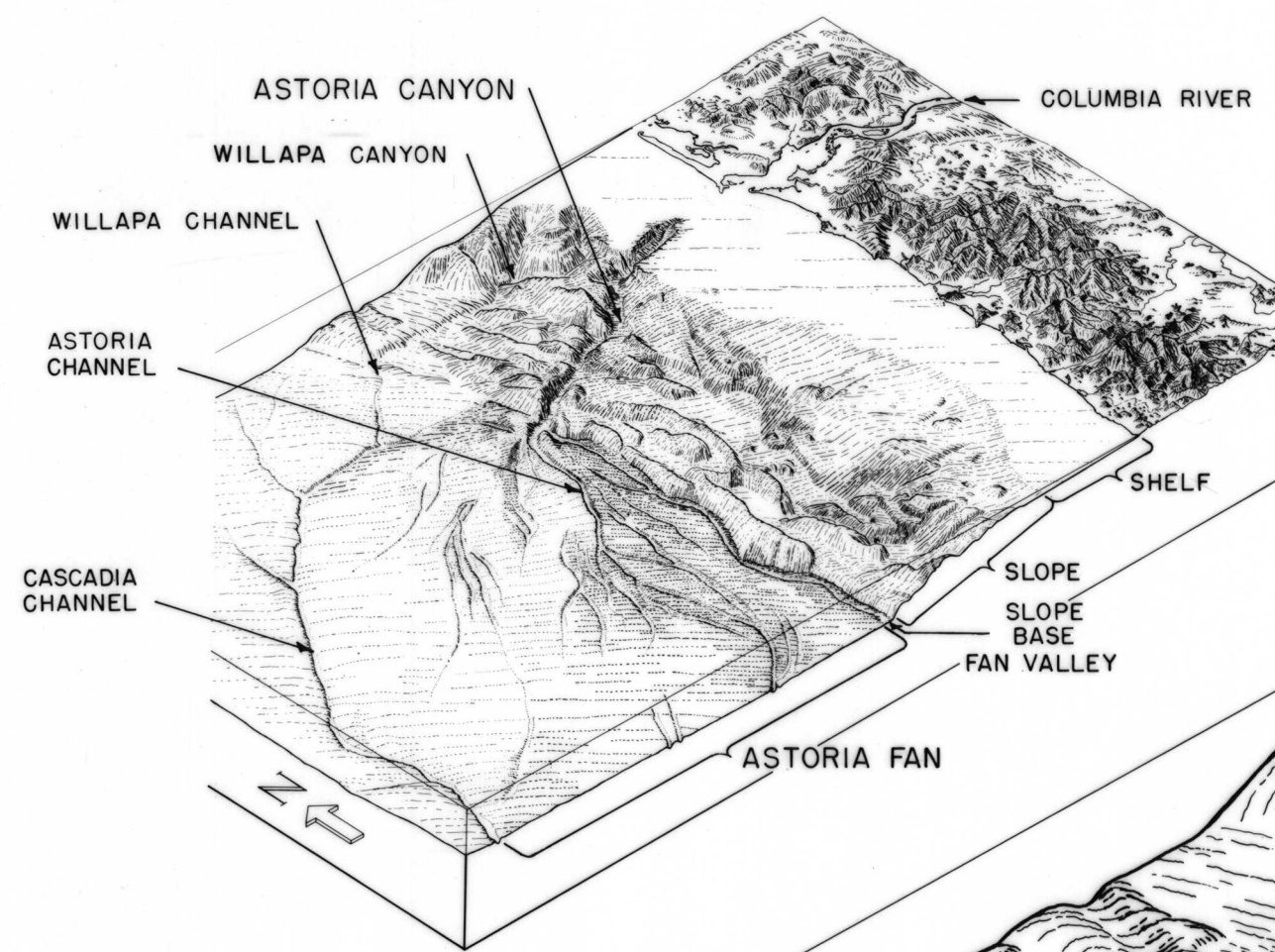
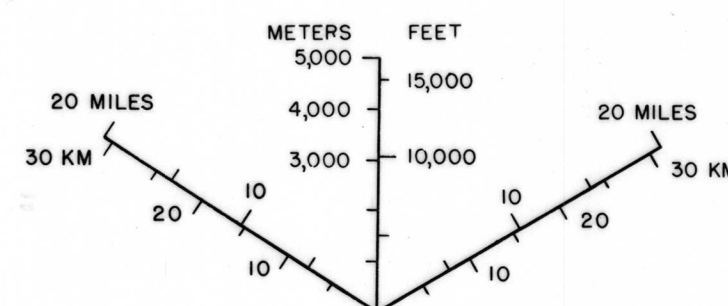


DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY



INDEX MAP

ORTHOGRAPHIC DRAWING BY TAU RHO ALPHA
BASED ON BATHYMETRIC CHARTS BY
NELSON (1968), CARLSON (1967), BYRNE (1963)
AND MC MANUS (1963)
TOPOGRAPHY FROM U.S.G.S.; OREGON
BASE MAP (1966) AND WASHINGTON BASE MAP (1962)



SCALE
VERTICAL EXAGGERATION 5:1

ASTORIA CANYON AND FAN